

Darwin's Theory of Evolution by Natural Selection



Activity

- Place a small handful of each color (speckled and white) chips on the white paper
- Stand up and try to count as many white chips as possible in 10 sec. Repeat for colored chips
- Place a small handful of each color (speckled and white) chips on the speckled paper
- Stand up and try to count as many white chips as possible in 10 sec. Repeat for colored chips
- Record the observations/data in your notebook pg 118




Natural Selection

- **Natural Selection: Organisms that are best adapted to an environment survive and reproduce more than others**



Darwin's Theory of Natural Selection

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1. **There is variation within any species**
 2. **All organisms tend to over-reproduce**
 3. **There is a struggle for survival**
 4. **The fittest survive**
 5. **The environment determines who is the fittest**

1. Variation exists within every population



a. Ladybugs have different spots

1. Variation exists within every population

b. Zebras all have different stripes



2. All species tend to produce more offspring than they can support



a. Turtle eggs

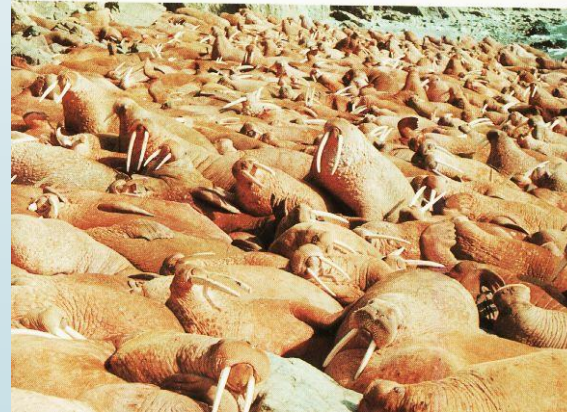
**b. Insect
eggs**



c. Frog eggs



3. There is a Struggle for Survival



- a. To eat**
- b. To drink**
- c. Territory**
- d. To mate**

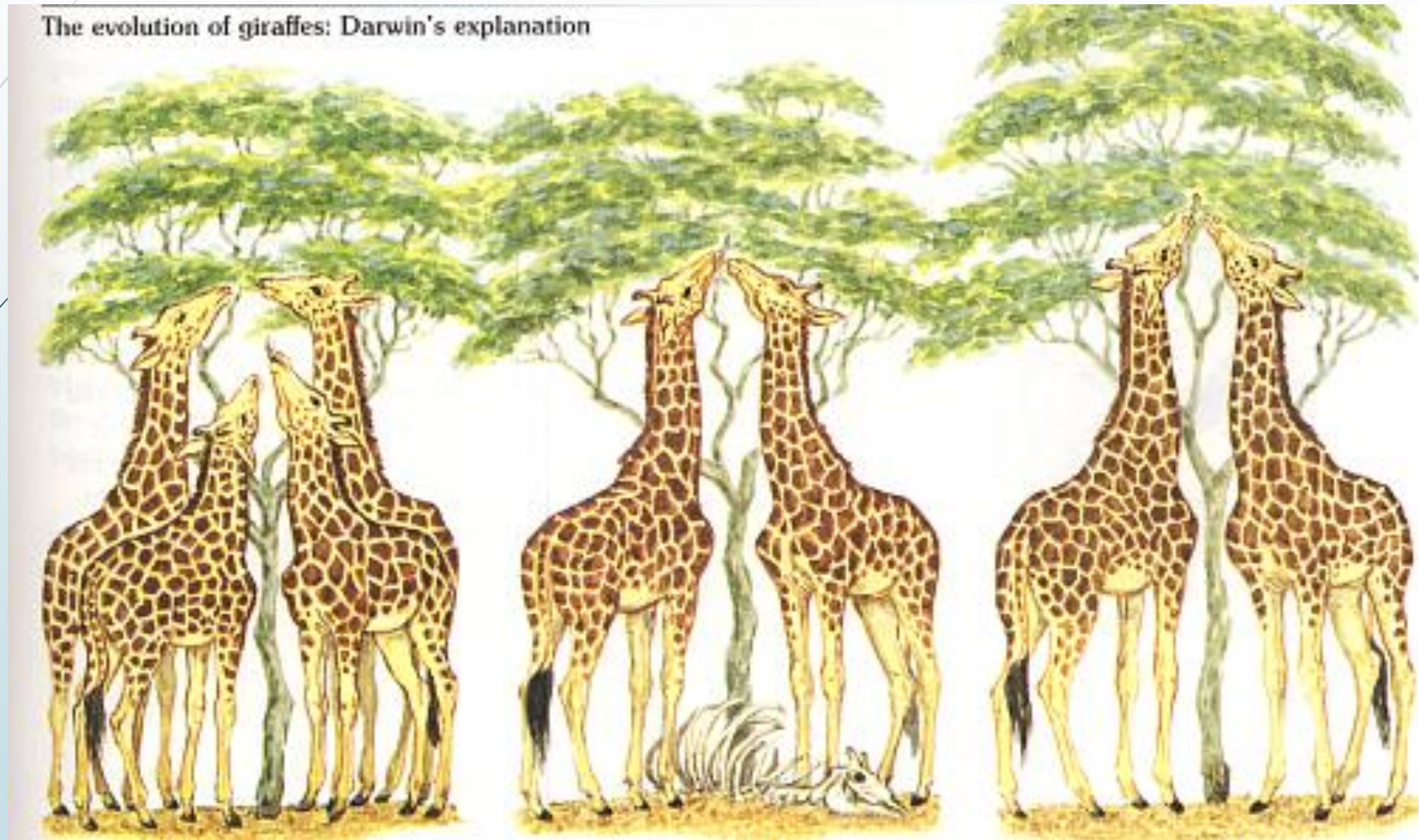


4. The fittest will survive

a. Healthy or sick horse?



5. Nature (the environment) will determine which organism is the fittest to Survive



a. long neck giraffes survive over short neck giraffes.

Evidence of Natural Selection

The Peppered Moth in England



Before the industrial
revolution



After the industrial
revolution

Explanation for the peppered moth

- There was variation in the moth population to begin with, some were black and some were white.
- This variation was due to random mutations.



Before the industrial revolution, the bark of the tree bark was white in color.

The white moths then were easily camouflaged, survived, and reproduced.

Black moths were rare.



After the industrial revolution,
the trees became covered
in soot/pollution from all of
the factories and the trees
turned black.

Now the black moth
were easily camouflaged,
survived, and reproduced.

White moths were rare.





How does the peppered moth illustrate natural selection?

- There was variation in the population to begin with (some white, some black).
- Moths tend to over-reproduce .
- Therefore there is a struggle for survival.
- The fittest (those that were camouflaged the best) survived.
- The environment determined which moths were the most fit.